Please amend the subject application as follows:

IN THE CLAIMS

Please **amend** claims 1, 10, and 11 and **add** new claims 17 and 18 in accordance with the Summary of the Claims section, *infra.* Deletions are shown with a strikethrough and/or between double brackets and additions are shown with underlining.

No new matter has been added.

Claim 17 corresponds to claim 5 written in independent form and claim 18 corresponds to claim 13 written in independent form.

SUMMARY OF THE CLAIMS

Claim 1 (currently amended). An imaging system, comprising:

a reflecting mirror having a geometry of one of two sheets of a two-sheeted hyperboloid; and

an imaging section which includes an imaging device for receiving light concentrated by a lens having a center located in any position opposing the reflecting mirror on a rotation axis of the reflecting mirror,

wherein the imaging system includes a correction section for performing coordinate transformation on captured image data obtained by capturing an image of a prescribed inspection drawing so as to produce a perspective transformed image data and for correcting distortion in the captured image based on a relationship between a value F regarding a distance between a lens position adapted for the coordinate transformation and a light-receiving surface of the imaging device that does not satisfy requirements for central projection onto the light-receiving surface and a value F_0 regarding a distance between a lens position and a light-receiving surface of the imaging device that satisfies requirements for central projection onto the light-receiving surface.

Claim 2 (original). An imaging system according to claim 1, wherein the coordinate transformation is performed on the captured image data so as to produce the perspective transformed image data using the following expression:

$$x=\frac{F\times(b^2-c^2)\times X}{(b^2+c^2)\times(Z-c)-2\times b\times c\times\sqrt{X^2+Y^2+(Z-c)^2}} \quad \ldots\ldots(1),$$

$$y=\frac{F\times(b^2-c^2)\times Y}{(b^2+c^2)\times(Z-c)-2\times b\times c\times\sqrt{X^2+Y^2+(Z-c)^2}} \quad \ldots\ldots(2),$$

(where (X,Y,Z) represents a position of an object, a, b and c are mirror constants, (x, y) represents a coordinate of the captured image, and F represents a distance between the lens position and the light-receiving surface of the imaging device).

Claim 3 (original). An imaging system according to claim 1, wherein a squared inspection drawing is used as the inspection drawing.

Claim 4 (original). An imaging system according to claim 1, wherein the correction section comprises:

an image processing section for transforming the captured image data into the perspective transformed image data so as to produce a perspective transformed image; and

an operation panel for inputting an instruction to increase or decrease the value regarding the distance between the lens position and the light-receiving surface of the imaging device.

Claim 5 (original). An imaging system according to claim 1, wherein the correction section comprises:

an image processing section for transforming the captured image data into the perspective transformed image data so as to produce a perspective transformed image; and

an image recognition section for recognizing whether or not the produced perspective transformed image is distorted by comparing the produced perspective transformed image to an image expected to be obtained when the captured image is a central projection image.

Claim 6 (original). An imaging system according to claim 4, wherein the image processing section performs coordinate transformation processing according to an instruction signal output by the operation panel.

Claim 7 (original). An imaging system according to claim 5, wherein the image processing section performs coordinate transformation processing according to an instruction signal output by the image recognition section.

Claim 8 (original). An imaging system according to claim 4, wherein the image processing section comprises:

a CPU connected to a bus line;

an input buffer memory;

a look-up table;

an arithmetic processing circuit; and

an output buffer memory,

wherein:

the CPU controls arithmetic processing;

the input buffer memory stores captured image data;

the look-up table and the arithmetic processing circuit are used for the arithmetic processing; and

the output buffer memory includes the image processing section for storing perspective transformed image data.

Claim 9 (original). An imaging system according to claim 5, wherein the image processing section comprises:

a CPU connected to a bus line;

an input buffer memory;

a look-up table;

an arithmetic processing circuit; and

an output buffer memory,

wherein:

the CPU controls arithmetic processing;

the input buffer memory stores captured image data;

the look-up table and the arithmetic processing circuit are used for the arithmetic processing; and

the output buffer memory includes the image processing section for storing perspective transformed image data.

Claim 10 (currently amended). A program used for controlling image data in an imaging system,

wherein the imaging system comprises:

a computer;

a reflecting mirror having a geometry of one of two sheets of a two-sheeted hyperboloid; and

an imaging section which includes an imaging device for receiving light concentrated by a lens having a center located in any position opposing the reflecting mirror on a rotation axis of the reflecting mirror, and

the program allows the computer to serve as:

a coordinate transformation section for performing coordinate transformation on captured image data obtained by capturing an image of a prescribed inspection drawing so as to produce perspective transformation image data;

a correction section for correcting distortion in the captured image based on a relationship between a value F regarding a distance between a lens position adapted for the coordinate transformation and a light-receiving surface of the imaging device~~.~~ that does not satisfy requirements for central projection onto the light-receiving surface and a value F_0 regarding a distance between a lens position and a light-receiving surface that satisfies requirements for central projection onto the light-receiving surface.

Claim 11 (currently amended). A method for correcting a captured image in an imaging system, wherein the imaging system comprises:

a reflecting mirror having a geometry of one of two sheets of a two-sheeted hyperboloid; and

an imaging device for receiving light concentrated by a lens having a center located in any position opposing the reflecting mirror on a rotation axis of the reflecting mirror,

the method comprising:

a first step of storing captured image data obtained by capturing an image of a prescribed inspection drawing in an input buffer memory;

a second step of performing coordinate transformation, according to an instruction from a CPU responding to an instruction signal output by an operation

panel, on the captured image data stored in the input buffer memory using an arithmetic processing circuit so as to produce perspective transformed image data and storing the perspective transformed image data in an output buffer memory; and

a third step of displaying an image produced from the perspective transformed image data stored in the output buffer memory on a monitor, the image being confirmed by an inspector,

wherein:

when a perspective transformed image obtained by capturing an image of a squared inspection drawing is determined to be distorted at the third step, the inspector inputs to the operation panel an instruction to increase or decrease a value regarding a distance between the lens position and the light-receiving surface of the imaging device such that the operation panel outputs an instruction signal to change the value regarding the distance between the lens position and the light-receiving surface of the imaging device; and

the first through third steps are repeated until the value regarding the distance between the lens position and the light-receiving surface satisfies requirements for central projection onto the light-receiving surface.

Claim 12 (original). A method for correcting a captured image in an imaging system, wherein the imaging system comprises:

a reflecting mirror having a geometry of one of two sheets of a two-sheeted hyperboloid; and

an imaging device for receiving light concentrated by a lens having a center located in any position opposing the reflecting mirror on a rotation axis of the reflecting mirror,

the method comprising:

a first step of storing captured image data obtained by capturing an image of a prescribed inspection drawing in an input buffer memory;

a second step of performing coordinate transformation, according to an instruction from a CPU responding to an instruction signal output by an image recognition section, on the captured image data stored in the input buffer memory using an arithmetic processing circuit so as to produce perspective transformed image

data and storing the perspective transformed image data in an output buffer memory; and

a third step for comparing the perspective transformed image data stored in the output buffer memory to expected image data obtained when a captured image is a central projection image by using the image recognition section,

wherein:

when a perspective transformed image obtained by capturing an image of a squared inspection drawing is determined to be distorted at the third step, the image recognition section outputs the instruction signal so as to change the value regarding the distance between the lens position and the light-receiving surface of the imaging device; and

the first through third steps are repeated.

Claim 13 (previously presented). An imaging system for transforming captured image data into perspective transformed image data, the system comprising:

an imaging section having a correction section for correcting distortion in the captured image data using a value regarding a distance between a light-receiving surface of an imaging device and a lens position,

wherein the correction section corrects distortion when a perspective transformed image obtained by capturing an image of a prescribed inspection drawing is not determined to be distorted using a method for correcting distortion of a captured image according to claim 11.

Claim 14 (previously presented). An imaging system for transforming captured image data into perspective transformed image data, the system comprising:

an imaging section having a correction section for correcting distortion in the captured image data using a value regarding a distance between a light-receiving surface of an imaging device and a lens position,

wherein the correction section corrects distortion when a perspective transformed image obtained by capturing an image of a prescribed inspection drawing is not determined to be distorted using a method for correcting distortion of a captured image according to claim 12.

Claim 15 (previously presented). A program embodied in a computer-readable medium for correcting a captured image in an imaging system, wherein the imagine system includes a reflecting mirror having a geometry of one of two sheets of a two-sheeted hyperboloid, and an imaging device for receiving light concentrated by a lens having a center located in any position opposing the reflecting mirror on a rotation axis of the reflecting mirror, the program comprising:

code that stores captured image data obtained by capturing an image of a prescribed inspection drawing in an input buffer memory;

code that performs coordinate transformation on the captured image data stored in the input buffer memory so as to produce perspective transformed image data;

code that stores the perspective transformed image data in an output buffer memory;

code that displays an image produced from the perspective transformed image data stored in the output buffer memory on a monitor; and

code that modifies a value regarding a distance between the lens position and a light receiving surface of the image device based on a distortion in perspective transformed obtained by capturing an image of a squared inspection drawing.

Claim 16 (previously presented). A program embodied in a computer-readable medium for correcting a captured image in an imaging system, wherein the imaging system includes a reflecting mirror having a geometry of one of two sheets of a two-sheeted hyperboloid, and an imaging device for receiving light concentrated by a lens having a center located in any position opposing the reflecting, mirror on a rotation axis of the reflecting mirror, the program comprising:

code that stores captured image data obtained by capturing an image of a prescribed inspection drawing in an input buffer memory;

code that performs coordinate transformation on the captured image data stored in the input buffer memory so as to produce perspective transformed image data;

code that stores the perspective transformed image data in an output buffer memory;

code that compares the perspective transformed image data stored in the output buffer memory to a expected image data obtained when a captured image is a central projection image by using an image recognition section; and

code that changes a value regarding the distance between the lens position and a light receiving surface of the imaging device based on a distortion of a perspective transformed image obtained by capturing an image of a squared inspection drawing.

Claim 17 (new). An imaging system, comprising:

a reflecting mirror having a geometry of one of two sheets of a two-sheeted hyperboloid; and

an imaging section which includes an imaging device for receiving light concentrated by a lens having a center located in any position opposing the reflecting mirror on a rotation axis of the reflecting mirror;

an image processing section for transforming the captured image data into the perspective transformed image data so as to produce a perspective transformed image; and

an image recognition section for recognizing whether or not the produced perspective transformed image is distorted by comparing the produced perspective transformed image to an image expected to be obtained when the captured image is a central projection image,

wherein the imaging system includes a correction section for performing coordinate transformation on captured image data obtained by capturing an image of a prescribed inspection drawing so as to produce a perspective transformed image data and for correcting distortion in the captured image based on a value regarding a distance between a lens position adapted for the coordinate transformation and a light-receiving surface of the imaging device.

Claim 18 (new). An imaging system for transforming captured image data into perspective transformed image data, the system comprising:

an imaging section having a correction section for correcting distortion in the captured image data using a value regarding a distance between a light-receiving surface of an imaging device and a lens position,

wherein the correction section corrects distortion when a perspective transformed image obtained by capturing an image of a prescribed inspection drawing is not determined to be distorted using a method for correcting distortion of a captured image comprising:

a first step of storing captured image data obtained by capturing an image of a prescribed inspection drawing in an input buffer memory;

a second step of performing coordinate transformation, according to an instruction from a CPU responding to an instruction signal output by an operation panel, on the captured image data stored in the input buffer memory using an arithmetic processing circuit so as to produce perspective transformed image data and storing the perspective transformed image data in an output buffer memory; and

a third step of displaying an image produced from the perspective transformed image data stored in the output buffer memory on a monitor, the image being confirmed by an inspector,

wherein:

when a perspective transformed image obtained by capturing an image of a squared inspection drawing is determined to be distorted at the third step, the inspector inputs to the operation panel an instruction to increase or decrease a value regarding a distance between the lens position and the light-receiving surface of the imaging device such that the operation panel outputs an instruction signal to change the value regarding the distance between the lens position and the light-receiving surface of the imaging device; and the first through third steps are repeated.